

## Request For Deviation / Waiver

Dev # - DAS-D02 Rev 1Date 27 March 2001Deviation ☒ Waiver ☐

## Originator

<b>Name:</b> ITT Industries, Inc	<b>Address:</b> ITT Industries, Inc. 1761 Business Center Drive Reston, VA 20190
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Title Of Deviation / Waiver: **DAS Demodulator Symbol/Decoder Sync**

<b>Contract Number:</b> GS-35-01095, Order # S 87070-Y, Task 11	<b>Cage Code:</b> <b>9M715</b>
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<b>Classification:</b>	Minor <input checked="" type="checkbox"/> Major <input type="checkbox"/> Critical <input type="checkbox"/>
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<b>Part Number:</b> 185-600012-01	<b>Title:</b> Demand Access System
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<b>Effectivity:</b> Serial Number(s): 001	<b>Recurring Deviation/ Waiver:</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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<b>Effect on Cost:</b> None	<b>Effect on Schedule:</b> None
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<b>Effect on Logistics Support, Interface or Software:</b> None
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<b>Reference Documents:</b> DAS SRD, spec no. 3.2.4.2.1.8.a & 3.2.4.2.1.8.b
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**Description of Deviation / Waiver:**  
Limit the symbol/decoder synchronization time requirement to no less than 50 ms.

3.2.4.2.1.8.a For the minimum symbol and data transition densities and the minimum specified C/No values required for 10-5 PE performance, the time to achieve symbol/decoder synchronization (in seconds) shall not exceed 1100/(data rate in bps), with 99% probability for Biphase symbol formats. For example, at 150 kbps this imposes a synchronization time of £ 0.007333 seconds.

3.2.4.2.1.8.b For the minimum symbol and data transition densities and the minimum specified C/No values required for 10-5 PE performance, the time to achieve symbol/decoder synchronization (in seconds) shall not exceed 6500/(data rate in bps), with 99% probability for NRZ symbol formats. For example, at 150 kbps this imposes a synchronization time of £ 0.04333 seconds.

**Need for Deviation / Waiver:**  
Requiring sub 50 ms symbol/decoder synchronization times (for high data rate users) provides marginal benefit at the expense of significant design impact and cost risk. The benefit from sub 50 ms synchronization time is marginal since PN/carrier acquisition times are on the order of 1 second or more. Sub 50 ms synchronization is potentially very costly because of the stringent real time processing constraints they would impose on the receiver software.

**Corrective action taken:**  
The time required for DAS to independently achieve symbol/decoder synchronization (in seconds) for each data channel will not exceed SRD 3.2.4.2.1.8.a and 3.2.4.2.1.8.b requirements or 50 ms, whichever is greater. For Biphase data rates above 22 kbps and NRZ data rates above 130 kbps, DAS will achieve symbol/decoder synchronization within 50 ms.

## Submitting Activity

<b>Name:</b> Walter W. Kearns	<b>Title:</b> ITT – AES, DAS PM	<b>Signature:</b> <i>/s/ Walter E. Kearns</i>	<b>Date:</b> 3/30/01
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## Customer Approval / Disapproval

<b>Approval</b> <input checked="" type="checkbox"/>	<b>Disapproval</b> <input type="checkbox"/>	<b>Date</b> 4/3/01
<b>Name:</b> Thomas A. Gitlin	<b>Title:</b> Code 453, DAS Product Manager	<b>Signature:</b> Original signed

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